Remittances and The Problem of Control: A Field Experiment Among Migrants from El Salvador

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Remittances and economic development

- Some things we know:
  - Households receiving exogenous increases in remittances are more likely to:
    - Send children to school, reduce child labor
    - Invest in new household enterprises
    - Exit poverty status
  - Remittances serve as insurance, rising in wake of negative shocks

- Some things we don't know:
  - Policy question: How might remittances be channeled towards uses with more development impact?
  - Economic question: to what extent are migrants' remittance decisions affected by their *lack of control* over remittance uses?

- Today: preliminary results from research that sheds light on both these policy and economic questions

Motivating ideas and hypotheses

- Migrants currently have limited ability to monitor or control how remittances are used by recipients

- Migrants and recipients have different preferences as to how remittances should be used

- In particular, compared to remittance recipients back home, migrants often have stronger preferences that remittances be used for long-term purposes
  - Savings
  - Investments (human capital as well as entrepreneurial)

- If migrants are given more control over remittance uses…
  - Remittance flows may rise
  - And a higher fraction of remittances may be channeled to uses that have long-term development impacts

- At the same time: migrants may be open to *learning* savings strategies that involve exerting control over savings

DC-area Salvadorans on control over remittance uses

"I have many uncles and they get drunk, so I just send money when needed, or I send to someone like my sister who I trust."

> Male, 34 years old, 8 months in the U.S., works as a roofer

"The brother of my boss sent around $50,000 to his mother over the years. When he thought he had enough money to build a house, he asked his mom for the money. She said she didn't have it. She had lent it to an uncle. When he asked for the money back, the uncle threatened to kill him if he came back to El Salvador for the money."

> Male, 30 years old, 1 year in the U.S., works as a carpenter

Remittances and savings

- This research focuses on the control that migrants have over how much of remittances are *saved*

- Migrants frequently report wanting household to save some fraction of remittances
  - Savings can be intended for use of:
    - Remittance recipient
    - Migrant

- Migrants report stronger preferences that remittances be saved, compared to recipients

- Migrants have little or no ability to control or monitor household savings in El Salvador
  - Can only request that household save a portion of cash received

Migrant vs. recipient remittance allocation (US$)
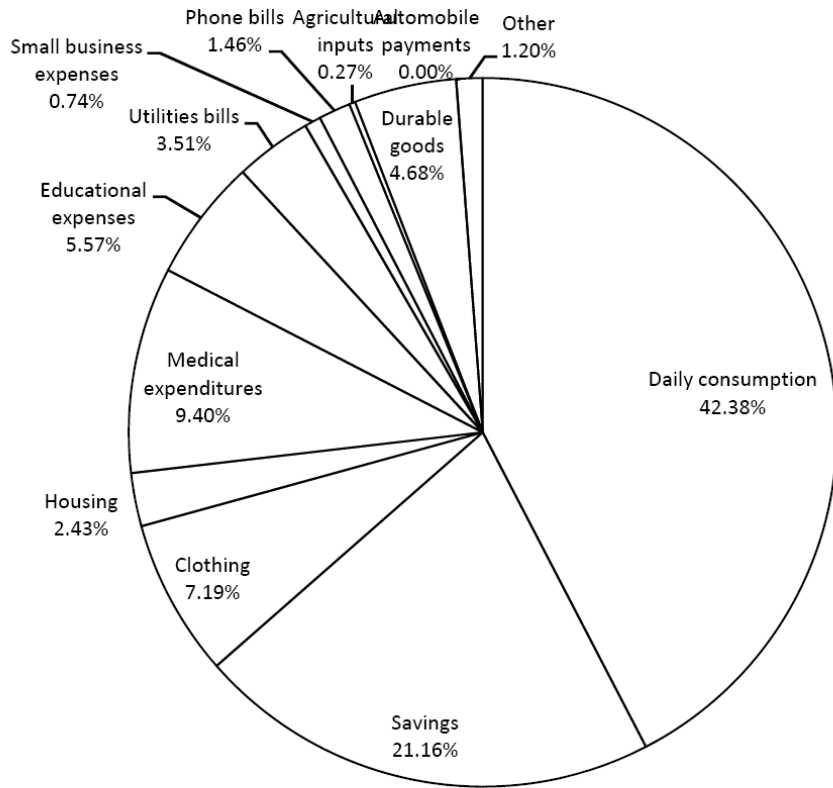
Migrant
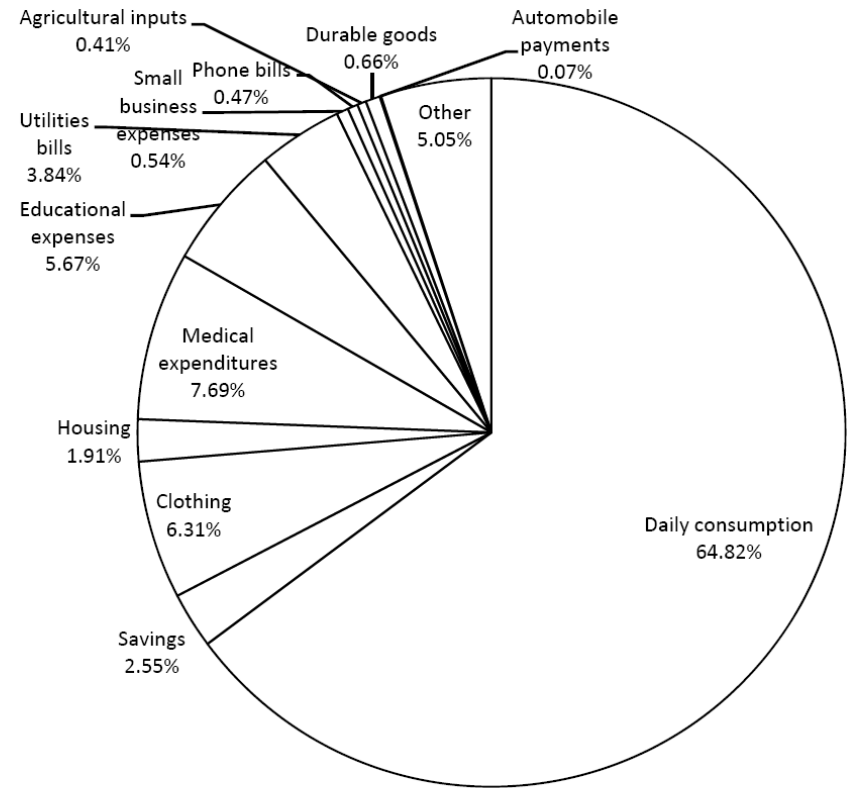
Remittance recipient

The experiment

- We offered Salvadoran migrants in Washington, D.C. the ability to directly channel remittances into savings accounts in El Salvador
  - Facilities developed for project in partnership with a Salvadoran bank, and previously were not widely available

- We randomly varied the degree of migrant control over accounts offered

- Outcomes of interest:
  - For today: Savings
  - Later: Remittance growth, consumption, schooling, entrepreneurial investment, housing, etc.

Migrants in Washington, D.C.

Remittance recipient in El Salvador

Savings accounts offered

- <u>Account for remittance recipient in El Salvador</u>
  - Migrants encouraged to save by remitting into another's El Salvador bank account
    - Pitch emphasized convenience
  - Account-opening assistance provided
  - Migrant cannot check balance or withdraw

- <u>Joint account (for migrant and household)</u>
  - Migrants encouraged to remit into shared account
    - Additional pitch: emphasis on ability to monitor savings
  - New product: "Cuenta Unidos"
  - Migrant and hh each have ATM cards; migrant can check balance

- <u>Individual migrant account</u>
  - Migrants encouraged to remit into own account
    - Additional pitch: emphasis on ability to exclusively control savings
  - New product: "Ahorro Directo"
  - Only migrant has ATM card
  - Not shared with household

Nested treatments

Migrant is offered …

	Account for remittance recipient	Joint account (*Cuenta Unidos*)	Migrant individual account (*Ahorro Directo*)
Treatment 0 (comparison group)			
Treatment 1	Y		
Treatment 2	Y	Y	
Treatment 3	Y	Y	Y

DC marketing team

Marketing visit in DC

Banco Agricola branch, El Salvador

Overview of results

- Savings respond positively to offer of joint ownership (Treatments 2 and 3) on savings
  - Remittances respond similarly

- But savings increase is not exclusively at partner bank

- Substantial impact on savings at non-partner banks (including US banks)

- Treatment 3 (offer of exclusive migrant control) shifts more savings towards migrant-owned accounts

- Total impact on savings associated with offer of migrant account ownership is very large. Relative to comparison group savings of $787…
  - 96% increase due to Treatment 2
  - 136% increase due to Treatment 3

Savings in recipient accounts of partner bank
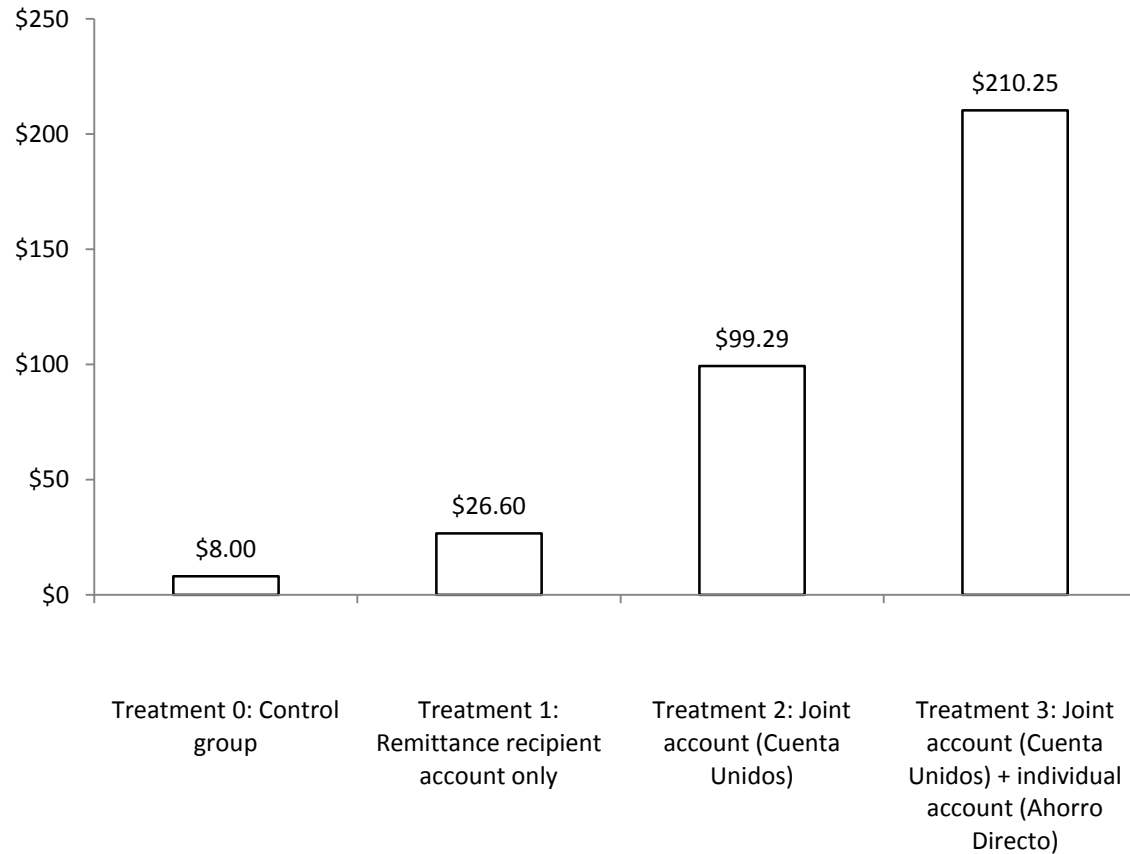
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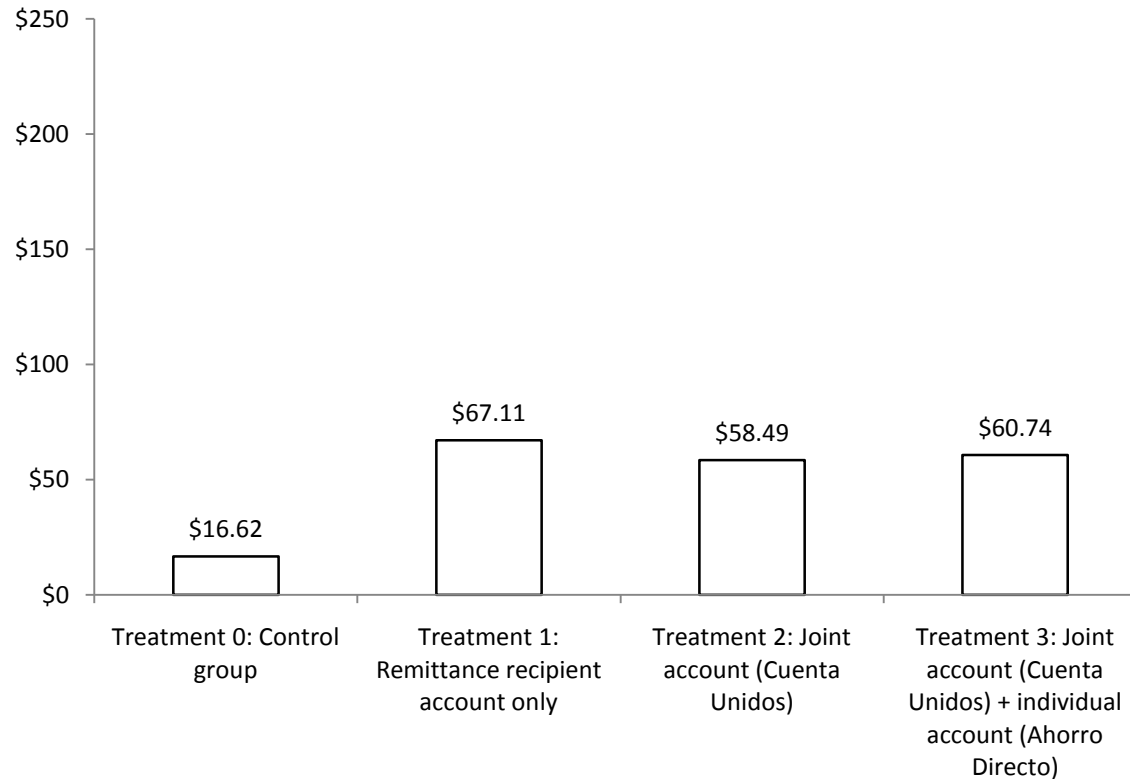
Remittances sent through partner bank
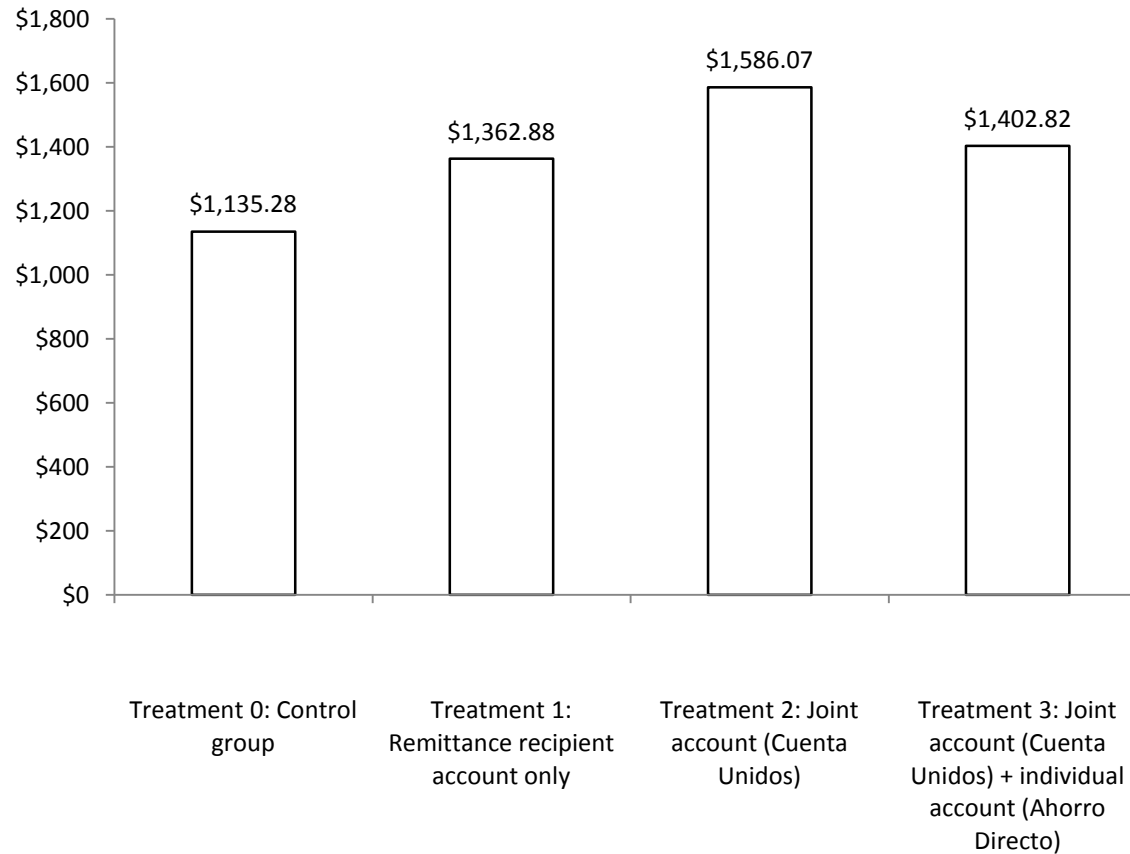
Regression specification

- For migrant i :

$$Y_i = \alpha + \beta Z_{1i} + \gamma Z_{2i} + \lambda Z_{3i} + \boldsymbol{X_i}'\boldsymbol{\phi} + \varepsilon_i$$

  – Y_i = savings

  – Z_{1i} = treatment 1 indicator
  – Z_{2i} = treatment 2 indicator
  – Z_{3i} = treatment 3 indicator
  – $\boldsymbol{X_i}$ = vector of baseline controls, fixed effects

Impact on savings at partner bank

Table 6: **Impact of treatments on savings in accounts of partner bank, restricted sample**
(Ordinary least-squares estimates)
Sample restricted to migrant/recipient-household pairs that completed the follow-up survey in Mar - Jun 2009

Dependent variable: Savings balances at 6 months post-treatment …

	… in project accounts …			… in non-project accounts …		… in total across accounts …		
	… of primary recipient	… of migrant alone	…shared by migrant and other individual (non-primary recipient)	… of primary recipient	… of migrant	…of migrant	… of primary recipient	…of migrant + primary recipient
	(a)	(b)	(c)	(d)	(e)	(b) + (c) + (e)	(a) + (d)	(a) + (b) + (c) + (d) + (e)
Treatment 3 (joint account + indiv. migrant account)	221.29** (104.59)	98.20* (53.53)	42.92 (30.96)	190.05 (193.35)	-11.22 (156.19)	129.90 (167.64)	411.33** (194.35)	541.23** (246.58)
Treatment 2 (joint account)	103.96 (103.49)	72.88 (52.96)	30.02 (30.63)	-32.49 (191.31)	39.65 (154.54)	142.55 (165.88)	71.46 (192.30)	214.02 (243.99)
Treatment 1 (remittance recipient account)	3.10 (106.88)	26.59 (54.70)	3.07 (31.64)	104.24 (197.59)	195.84 (159.61)	225.51 (171.32)	107.34 (198.61)	332.84 (251.99)
Marketer fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Treatment month fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Stratification cell fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls for pre-treatment savings	Y	Y	Y	Y	Y	Y	Y	Y
Observations	652	652	652	652	652	652	652	652
R-squared	0.072	0.067	0.070	0.932	0.582	0.548	0.933	0.902
P-value of F-test: equality of …								
Treatment 3 & 2 coeffs.	0.2377	0.6185	0.6608	0.2258	0.7316	0.9367	0.0659	0.1626
Treatment 3 & 1 coeffs.	0.0364	0.1792	0.1962	0.6557	0.1832	0.5667	0.1164	0.3959
Treatment 2 & 1 coeffs.	0.3239	0.3763	0.3732	0.4693	0.3063	0.6126	0.8502	0.6219
Mean of dep. var. in control group	14.50	1.31	0	499.92	73.47	74.78	514.42	589.21

* significant at 10%; ** significant at 5%; *** significant at 1%

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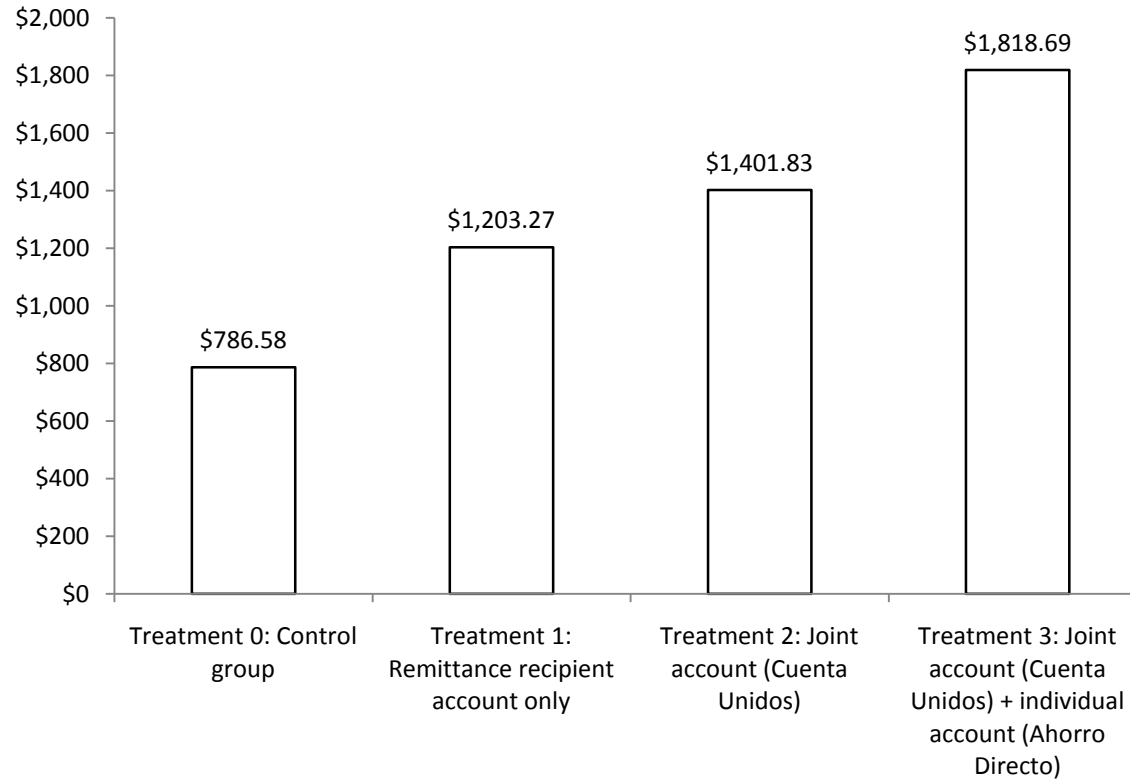* significant at 10%; ** significant at 5%; *** significant at 1%

Impact on recipient savings at partner bank, over time

Figure 2: Impact of Treatments on Savings in Recipient Project Accounts, by Month Relative to Treatment Month
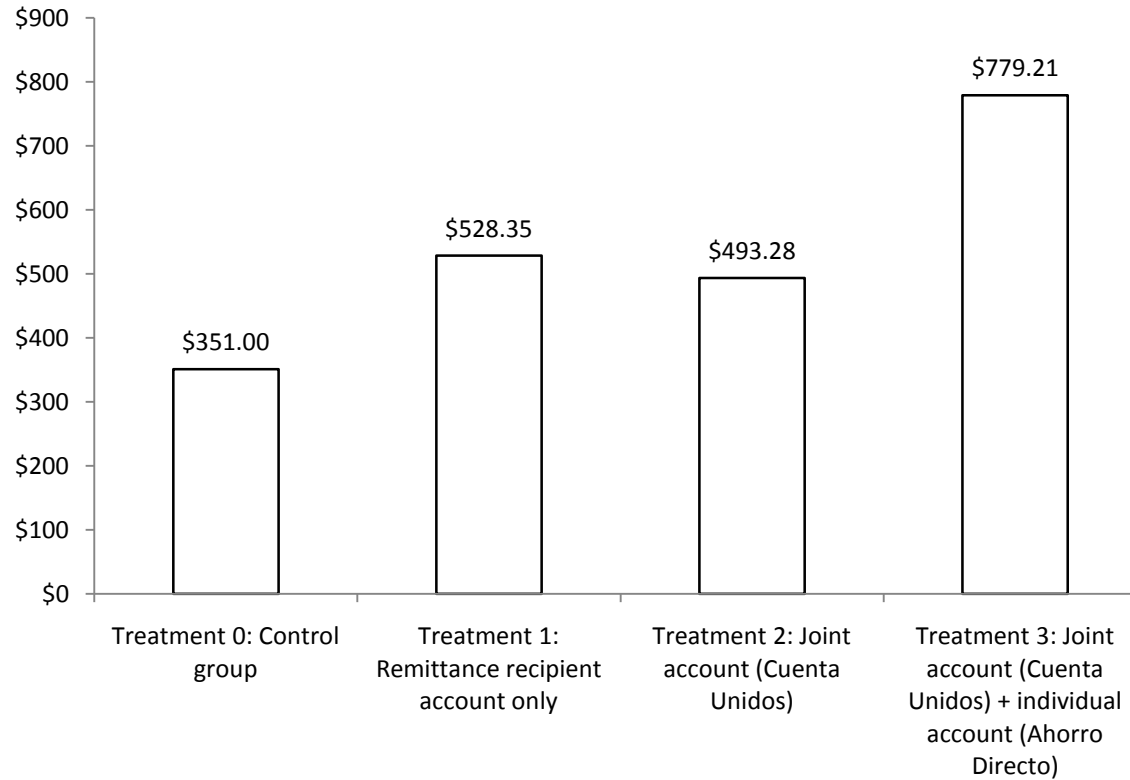
Treatment 3
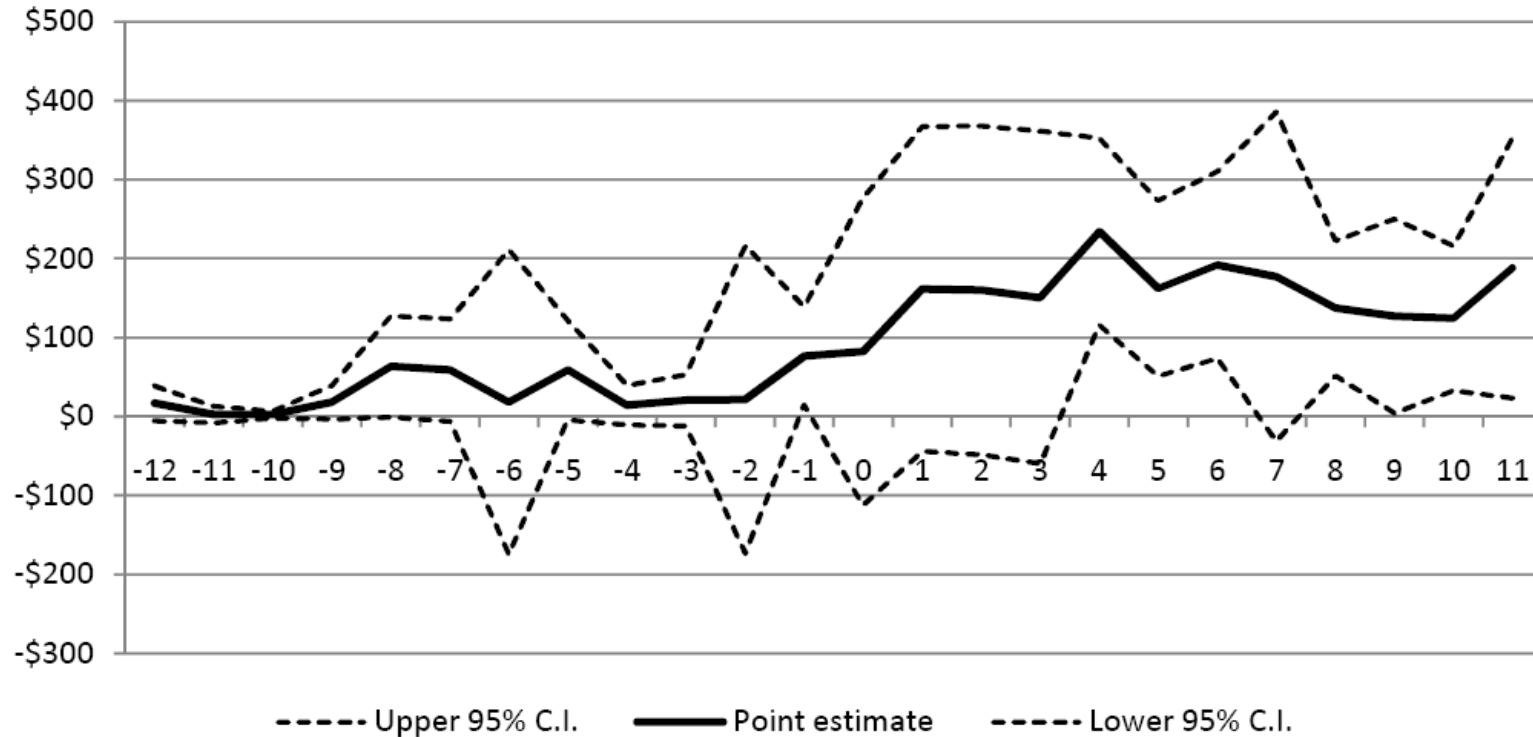
Total savings in trans-national household

Savings in US bank accounts

Impact on total savings

Table 7: **Impact of treatments on total savings reported in follow-up survey (Mar - Jun 2009)**
(Ordinary least-squares estimates)
Sample restricted to migrant/recipient-household pairs that completed the follow-up survey in Mar - Jun 2009

Dependent variable:	Savings reported in follow-up survey…									
	… by El Salvador household …				… by DC migrant …					… by El Salvador household + DC migrant in total
	… at partner bank	… in non-partner bank	… in cash, not in banks	… in total	… at partner bank (in El Salvador)	… at other banks in El Salvador	… in US banks	… in cash, not in banks	… in total	
	(a)	(b)	(c)	(d) = (a) + (b) + (c)	(e)	(f)	(g)	(h)	(i) = (e) + (f) + (g) + (h)	(j) = (d) + (i) - overlapping reports of joint accounts
Treatment 3 (joint account + indiv. migrant account)	128.37 (86.69)	424.11 (310.44)	16.62 (24.74)	569.10* (323.81)	-34.70 (93.96)	245.61 (261.72)	425.64* (219.19)	-89.11 (78.08)	636.55* (350.27)	1,072.51** (418.18)
Treatment 2 (joint account)	-43.34 (85.78)	532.21* (307.17)	27.79 (24.48)	516.66 (320.40)	101.90 (92.97)	361.85 (258.96)	172.23 (216.88)	-20.18 (77.26)	635.98* (346.58)	754.86* (413.78)
Treatment 1 (remittance recipient account)	146.76* (88.59)	107.00 (317.24)	6.81 (25.28)	260.57 (330.90)	-94.32 (96.02)	112.12 (267.45)	194.49 (223.99)	2.34 (79.79)	212.28 (357.94)	436.11 (427.34)
Marketer fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Treatment month fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
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Treatment 2 & 1 coeffs.	0.0251	0.1613	0.3855	0.4184	0.0329	0.3290	0.9172	0.7679	0.2160	0.4355
Mean of dep. var. in control group	78.17	117.37	8.48	204.03	68.19	258.52	351.00	111.42	677.71	786.58

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Treatment 2 (joint account)	-43.34 (85.78)	532.21* (307.17)	27.79 (24.48)	516.66 (320.40)	101.90 (92.97)	361.85 (258.96)	172.23 (216.88)	-20.18 (77.26)	635.98* (346.58)	754.86* (413.78)
Treatment 1 (remittance recipient account)	146.76* (88.59)	107.00 (317.24)	6.81 (25.28)	260.57 (330.90)	-94.32 (96.02)	112.12 (267.45)	194.49 (223.99)	2.34 (79.79)	212.28 (357.94)	436.11 (427.34)
Marketer fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Treatment month fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stratification cell fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls for pre-treatment savings	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	652	652	652	652	652	652	652	652	652	652
R-squared	0.127	0.047	0.048	0.051	0.134	0.057	0.101	0.092	0.083	0.082
P-value of F-test: equality of …										
Treatment 3 & 2 coeffs.	0.0373	0.7139	0.6344	0.8646	0.1261	0.6400	0.2237	0.3527	0.9986	0.4239
Treatment 3 & 1 coeffs.	0.8312	0.3049	0.6903	0.3386	0.5238	0.6083	0.2895	0.2395	0.2239	0.1266
Treatment 2 & 1 coeffs.	0.0251	0.1613	0.3855	0.4184	0.0329	0.3290	0.9172	0.7679	0.2160	0.4355
Mean of dep. var. in control group	78.17	117.37	8.48	204.03	68.19	258.52	351.00	111.42	677.71	786.58

* significant at 10%; ** significant at 5%; *** significant at 1%

Impact on total savings

Table 7: Impact of treatments on total savings reported in follow-up survey (Mar - Jun 2009)
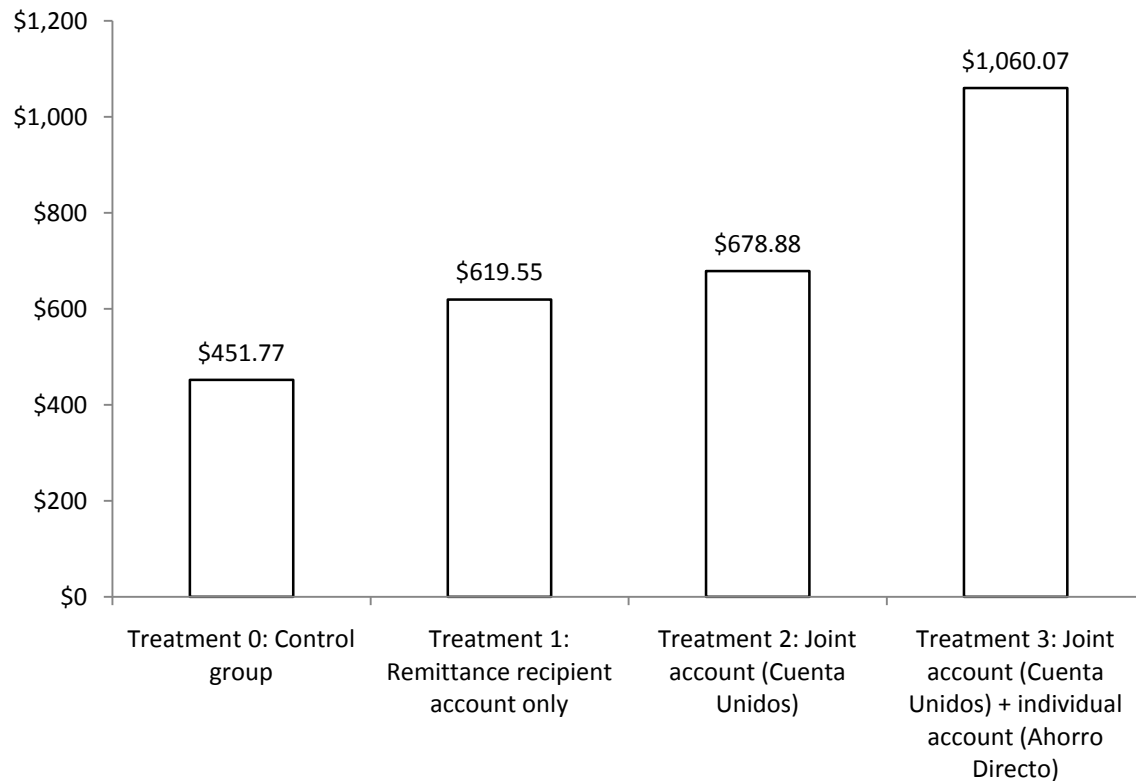(Ordinary least-squares estimates)
Sample restricted to migrant/recipient-household pairs that completed the follow-up survey in Mar - Jun 2009

Dependent variable:	Savings reported in follow-up survey…									… by El Salvador household + DC migrant in total
	… by El Salvador household …				… by DC migrant …					
	… at partner bank	… in non-partner bank	… in cash, not in banks	… in total	… at partner bank (in El Salvador)	… at other banks in El Salvador	… in US banks	… in cash, not in banks	… in total	
	(a)	(b)	(c)	(d) = (a) + (b) + (c)	(e)	(f)	(g)	(h)	(i) = (e) + (f) + (g) + (h)	(j) = (d) + (i) - overlapping reports of joint accounts
Treatment 3 (joint account + indiv. migrant account)	128.37 (86.69)	424.11 (310.44)	16.62 (24.74)	569.10* (323.81)	-34.70 (93.96)	245.61 (261.72)	425.64* (219.19)	-89.11 (78.08)	636.55* (350.27)	1,072.51** (418.18)
Treatment 2 (joint account)	-43.34 (85.78)	532.21* (307.17)	27.79 (24.48)	516.66 (320.40)	101.90 (92.97)	361.85 (258.96)	172.23 (216.88)	-20.18 (77.26)	635.98* (346.58)	754.86* (413.78)
Treatment 1 (remittance recipient account)	146.76* (88.59)	107.00 (317.24)	6.81 (25.28)	260.57 (330.90)	-94.32 (96.02)	112.12 (267.45)	194.49 (223.99)	2.34 (79.79)	212.28 (357.94)	436.11 (427.34)
Marketer fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Treatment month fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stratification cell fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls for pre-treatment savings	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	652	652	652	652	652	652	652	652	652	652
R-squared	0.127	0.047	0.048	0.051	0.134	0.057	0.101	0.092	0.083	0.082
P-value of F-test: equality of …										
Treatment 3 & 2 coeffs.	0.0373	0.7139	0.6344	0.8646	0.1261	0.6400	0.2237	0.3527	0.9986	0.4239
Treatment 3 & 1 coeffs.	0.8312	0.3049	0.6903	0.3386	0.5238	0.6083	0.2895	0.2395	0.2239	0.1266
Treatment 2 & 1 coeffs.	0.0251	0.1613	0.3855	0.4184	0.0329	0.3290	0.9172	0.7679	0.2160	0.4355
Mean of dep. var. in control group	78.17	117.37	8.48	204.03	68.19	258.52	351.00	111.42	677.71	786.58

* significant at 10%; ** significant at 5%; *** significant at 1%

Savings in accounts where migrant is an "owner"

Impact on savings in migrant-owned accounts

Table 9: Impact of treatments on migrant savings by reported ownership (from follow-up survey data)
(Ordinary least-squares estimates)
Sample restricted to migrant/recipient-household pairs that completed the follow-up survey in Mar - Jun 2009

Dependent variable: Savings in bank accounts reported by DC-based migrant in follow-up survey

Migrant reports self as an owner of the account?	No	Yes
	(a)	(b)
Treatment 3 (joint account + indiv. migrant account)	148.79 (210.06)	572.67** (254.47)
Treatment 2 (joint account)	354.18* (207.84)	221.81 (251.79)
Treatment 1 (remittance recipient account)	-12.12 (214.66)	170.16 (260.05)
Marketer fixed effects	Y	Y
Treatment month fixed effects	Y	Y
Stratification cell fixed effects	Y	Y
Controls for pre-treatment savings	Y	Y
Observations	652	652
R-squared	0.047	0.098
P-value of F-test: equality of …		
Treatment 3 & 2 coeffs.	0.3034	0.1469
Treatment 3 & 1 coeffs.	0.4416	0.1124
Treatment 2 & 1 coeffs.	0.0747	0.8355
Mean of dep. var. in control group	101.61	451.77

* significant at 10%; ** significant at 5%; *** significant at 1%

Impact on savings in migrant-owned accounts

Table 9: **Impact of treatments on migrant savings by reported ownership (from follow-up survey data)**
(Ordinary least-squares estimates)
Sample restricted to migrant/recipient-household pairs that completed the follow-up survey in Mar - Jun 2009

Dependent variable: Savings in bank accounts reported by DC-based migrant in follow-up survey

Migrant reports self as an owner of the account?	No	Yes
	(a)	(b)
Treatment 3 (joint account + indiv. migrant account)	148.79 (210.06)	572.67** (254.47)
Treatment 2 (joint account)	354.18* (207.84)	221.81 (251.79)
Treatment 1 (remittance recipient account)	-12.12 (214.66)	170.16 (260.05)
Marketer fixed effects	Y	Y
Treatment month fixed effects	Y	Y
Stratification cell fixed effects	Y	Y
Controls for pre-treatment savings	Y	Y
Observations	652	652
R-squared	0.047	0.098
P-value of F-test: equality of …		
Treatment 3 & 2 coeffs.	0.3034	0.1469
Treatment 3 & 1 coeffs.	0.4416	0.1124
Treatment 2 & 1 coeffs.	0.0747	0.8355
Mean of dep. var. in control group	101.61	451.77

33

* significant at 10%; ** significant at 5%; *** significant at 1%

Interpretation of results

- Because substantial savings growth is outside partner bank, some portion of effect is due to financial advice that coincided with treatments
  - Treatment 2: should monitor via saving in joint accounts
  - Treatment 3: should also save in own accounts
  - "Financial literacy effect" leads to more savings

- But migrants do take advantage of opportunities to control savings when it is offered
  - In Treatment 3:
    - Migrants accumulate more savings in joint accounts with recipients at partner bank
    - But at the same time also save in own accounts *outside* of partner bank
  - "Control effect" leads to allocation of savings towards accounts with migrant ownership

Lessons for policymakers and private sector

- Migrants value (or can be convinced to value) control over savings
  - Private sector should offer such savings facilities
  - Public sector may choose to promote/subsidize them as well

- Further research is necessary to determine whether migrants value control over other types of expenditures
  - Housing
  - Human capital (education and health)
  - Durable goods

- If so, public policy can help promote direct payment facilities for expenditures with clear development impacts
  - Education, health, small enterprises

Ongoing work in other migrant populations

- Testing demand for and impact of direct payment facilities
  - Focus on outcomes with broader development impacts, such as education, health

- Research among overseas Filipino workers in Qatar
  - Final stages of design of payment facilities, in partnership with Bank of the Philippine Islands
  - Pilot test scheduled to begin this summer
  - To assess impacts, will carry out surveys of workers in Qatar, families in Philippines

- New opportunities: direct payments for African migrants
  - Promising for African countries with large migrant populations, such as Kenya, Nigeria, Ghana
  - Focus on provision of agricultural inputs (e.g., fertilizer)